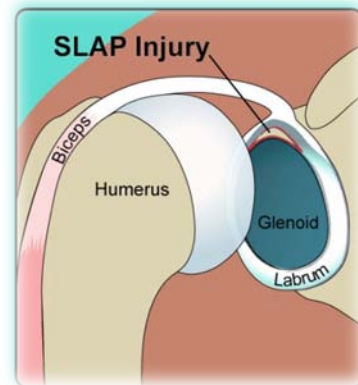


## SLAP Repair Protocol

### Anatomy and Biomechanics

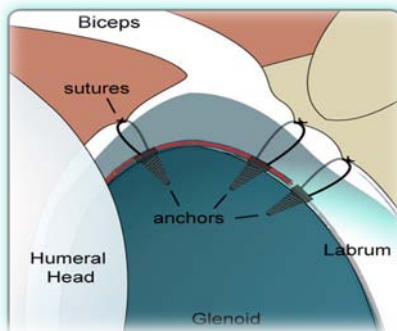
The shoulder is a wonderfully complex joint that is made up of the ball and socket connection between the humerus (ball) and the glenoid portion of the scapula (socket). The socket portion of the joint is not naturally deep. For this reason the shoulder is the most mobile joint in the body. Due to the lack of bony coverage the shoulder's proper function and stability is largely dependent on the soft tissues that surround it.

The glenoid labrum is a fibrocartilage rim that surrounds the edge of the glenoid fossa (socket). It serves to deepen the socket and provide suction effect on the head of the humerus (ball), thus improving the stability of the naturally shallow joint. The labrum can be damaged or torn in many different ways. When the superior (upper) part of the labrum is torn it is often termed a SLAP tear. This acronym stands for superior labrum from anterior to posterior. A SLAP tear can happen traumatically or in response to repetitive activity like throwing.



### Treatment Options

Regardless of how the labrum is torn your physician will work with you to determine what the best course of treatment will be. In many cases the pain and dysfunction associated with a SLAP tear can be successfully treated with rest, anti-inflammatory measures, activity modification and Physical Therapy. When conservative measures are unsuccessful in restoring function you and your physician may elect to have the torn labrum repaired.



### Surgery

Labral repair surgery involves re-anchoring or trimming the torn piece of cartilage. The procedure is usually performed arthroscopically and is, in most cases an outpatient day surgery procedure. This means that it is very rare to have to spend the night in the hospital. If damage to the labrum or other tissue is extensive your surgeon may have to use an open incision rather than an arthroscope to complete the procedure. Regardless, of

whether the procedure is open or arthroscopic all patients will likely be home on the same day as surgery.

### **Recovery/Time off Work**

Recovering from labral repair surgery is not easy. It is very important that the patient knows that the recovery process is difficult and time consuming. He or she must be an active participant during this process, performing daily exercises to ensure there is proper return of range of motion and strength. There is a large amount of variability in the time it takes to fully recover from this procedure. It is usually estimated that it will take at least 4-6 months to feel as though you have completely regained the use of your arm. Some cases may take as long as 9-12 months to make a full recovery. People with desk jobs should plan to take at least 1 week off from work. Manual laborers will likely be out of work for at least 4-6 months. **Recovery is different in each case.** Your individual time table for return to activities and work will be discussed by your surgeon during post operative office visits.

### **Post Operative Visits**

Your first post-op visit to the doctor's office will be approximately 7-10 days after the operation. At this visit your stitches will be removed and you will review the surgery with the surgeon or his assistant. At this time you will most likely be cleared to make an appointment to begin Physical Therapy. You should also plan to check in with your surgeon at 6, 12, and 24 weeks after the operation.

### **At Home**

You may remove your post-op dressing 2 days after the operation and replace it as needed. Do not remove the strips of tape (steri-strips) that are across your incision. Allow them to fall off on their own. You may shower after 2 days, but use a water-tight dressing until your sutures are removed. Bathing without getting the shoulder wet or sponge baths are a good alternative. You may wash under the affected arm by leaning forward and letting the arm dangle. Do not attempt to actively move your arm at the shoulder joint for any reason until your doctor allows you. You may remove your sling several times a day and gently move your hand, wrist and elbow and perform shoulder pendulum exercises.

### **Medication**

Your surgeon will prescribe pain medicine for you after the operation. Please call the doctor's office if you have any questions regarding medication.

### **Ice**

You must use ice on your shoulder after the operation for management of pain and swelling. Ice should be applied 3-5 times a day for 10-20 minutes at a time. Always maintain one layer between ice and the skin. Putting a pillow case over your ice pack works well for this.

### **Sling**

You will be provided with a sling to wear after the operation. You should wear this sling most of the time for at least the first 2 weeks after the operation. Remove it when bathing/showering, or to do your exercises. Some patients may require the use of the sling for the first 4 weeks after the operation. Your doctor will give you specific instructions regarding how long you should use your sling.

**Sleeping**

You may sleep with a pillow propped under your arm to keep it slightly away from the body. For many patients lying flat is uncomfortable at first. It is generally easier to sleep propped up or in a recliner for a short period of time after the operation. Do not attempt to sleep on your operated shoulder for at least 6 weeks.

## Rehabilitation

**\*\*The following is an outlined progression for rehab. Time tables are approximate and advancement from phase to phase as well as specific exercises performed should be based on each individual patient's case and sound clinical judgment by the rehab professional. \*\***

### Phase 1 (0-4 Weeks) Passive ROM Phase

#### Goals

Control Pain and Swelling  
Protect Healing Tissue  
Begin to Restore Range of Motion

#### Precautions

Do not actively reach arm behind back.  
Do not actively reach overhead.  
Do not actively reach arm behind your head.  
Do not lift anything with your arm.

#### Recommended Exercises

\*See passive ROM limitations in chart on page 8\*

Pendulums  
Standing Scapular Mobility (no resistance)  
Supine or Standing Passive External Rotation  
Supine, Seated or Standing Passive Shoulder Flexion (elevation)  
Passive Internal Rotation  
Sub-maximal Isometric Shoulder Internal and External Rotation  
Ball Squeeze

#### Guidelines

Perform these exercises 3-5 times a day. Do 1-2 sets of 10-20 repetitions of each exercise.

### Phase 2 (4-8 Weeks) Active ROM Phase

#### Goals

Continued protection of healing tissue  
Continue to improve ROM  
Initiate gentle peri-scapular and rotator cuff strengthening  
Begin using your arm for daily activities in front of body only

## **Precautions**

Discontinue use of sling if you have not already

Be careful with raising your arm, especially overhead, away from your body and behind you

Continue to avoid lifting or carrying anything heavy

## **Recommended Exercises**

### ROM

Continue passive ROM with physical therapist

\*See passive ROM limitations in chart on page 8\*

Pendulums

Supine stick flexion and table slides

Supine or Standing Passive External Rotation

Internal Rotation

### Strengthening (Resistance Band or Body Weight Against Gravity)

Row

Prone Extension

Prone Horizontal Abduction

Standing/Prone Scaption

Internal Rotation (Neutral) \*work from full IR to neutral\*

External Rotation (Neutral) \*work from full IR to neutral\*

### Dynamic Strengthening with Physical Therapist

Gentle proprioceptive drills

Rhythmic stabilization with therapist

## **Guidelines**

Perform all ROM and Strengthening exercises once a day. Do 2-3 sets of 15-20 repetitions.

## **Phase 3 (8-12 Weeks) Strengthening Phase**

### **Goals**

Continue to acquire normal ROM (both passive and active)

Progress strengthening of rotator cuff and shoulder blade muscle groups

Begin to use arm for daily activities in all planes

### **Precautions**

No lifting away from your body or overhead greater than 1 or 2 pounds

Caution with repetitive use of arm especially overhead

Stop activity if it causes pain in shoulder

### **Recommended Exercises**

#### Range of Motion

Continue passive ROM with physical therapist as needed gradually progress to full ROM

Continue ROM exercises from phase 2 until ROM is normalized

Gentle progression of abduction angle with external rotation stretch

Gentle supine or standing cross body stretch

Gentle sidelying internal rotation stretch (“sleeper”) \*caution to not cause impingement\*

Strengthening (Resistance Band or Dumbbell)

Row

Prone Extension

Prone Horizontal Abduction

Standing Scaption with progression to Prone

Internal Rotation

External Rotation

Dynamic Strengthening

Manual Resistance Rhythmic Stabilization

Proprioceptive Drills (90° of Elevation or Below)

**Guidelines**

Perform ROM and stretching exercises once a day until normal ROM is achieved. Do 2 sets of 15-20 Reps. Once normal ROM is achieved continue exercises to maintain ROM 3-5 times a week.

Perform strengthening exercises 3-5 times a week. Do 2-3 sets of 15-20 Reps. Strict attention must be paid to scapula-humeral rhythm with completion of all strengthening exercises.

**Phase 4 (12-16 Weeks) Sport Specific Phase**

**Goals**

Progress to normal ROM and strength

Continue to encourage progressive use of arm for functional daily activity

**Precautions**

Encourage return to full use of arm for daily activities

Pay particular attention to scapula-humeral rhythm especially with abduction and overhead activity

Still restricted from return to sports

**Recommended Exercises**

ROM and Stretching

Continue ROM and stretching exercises from phase 2-3

Strengthening

Continue strengthening exercises from phase 3

May begin supervised weight training pending surgeons clearance

Dynamic Strengthening

Progress manual resistance patterns

Progress proprioceptive drills to include rhythmic stabilization

Push up progression

## **Guidelines**

Perform ROM and stretching program 1-3 times a week to maintain normal ROM. Do 1-2 sets of 15-20 Reps. Perform ROM and stretching more frequently in any planes of motion that are still deficient  
Perform strengthening 3 times a week. Do 2-3 sets of 15-20 Reps.

## **Phase 5 (16-24 Weeks) Return to Activity Phase**

### **Goals**

Maintain adequate ROM and strength  
Continue progressive dynamic strengthening  
Begin return to sport progressions pending surgeon's clearance

### **Precautions**

Gradual return to sport pending surgeon's clearance  
Work with surgeon or Physical Therapist to develop specific return to sport progression

### **Recommended Exercises**

#### ROM and Stretching

Continue ROM and stretching exercises in any planes of motion that are deficient  
Continue cross body stretch and sidelying internal rotation stretch following workouts

#### Strengthening

Continue strengthening exercises from phase 4

#### Dynamic Strengthening

Progress Manual Resistance Patterns  
Progress Proprioceptive, Plyometric, Rebounder Drills to include overhead

### **Guidelines**

Perform 1-2 sets of 15-20 repetitions of ROM and stretching exercises 1-3 times a week in all deficient planes of motion. Perform 1 set of 15-20 repetitions of ROM and stretching exercises after all return to sport activities.

Perform 2-3 sets of 15-20 repetitions of all strengthening exercises 2-3 times a week. Perform dynamic strengthening program 1-2 times a week while undergoing return to sport progression.

Time	Focus	Range of Motion	Recommended Exercises	Precautions
<b>Phase 1</b> 0-4 Weeks	*Passive ROM *Tissue Healing	*Flexion as Tolerated *0-2 Weeks ER to 15° IR to 45° in Scapular Plane *2-4 Weeks ER to 30° IR to 60° in Scapular Plane, Abduction to 80°	<b>Passive</b> Pendulums Scapular Retraction Shoulder Shrugs Passive External Rotation Passive Flexion Passive Internal Rotation <b>Strengthening</b> Sub-maximal Isometric ER/IR Ball Squeeze	*Sling 0-4 Weeks or per MD Instruction *No ER with Arm in Abduction *No Excessive Shoulder Extension
<b>Phase 2</b> 4-8 Weeks	*Improve ROM with Careful Progression of IR/ER *Slow Transition to Strengthening after MD Follow Up	*Continue Flexion as Tolerated *Beginning at 4 Weeks ER to 50° IR to 60° (in 45° of Abduction) *Beginning at 6 Weeks Gently Progress to ER at 90° of Abduction	<b>Passive</b> Continue PROM Exercises Gentle Passive ER at 90° Abd Starting at 6 Weeks  <b>Active Assisted</b> Supine/Standing Flexion, Horizontal Adduction, Hand Behind Head ER, Sidelying IR  <b>Strengthening</b> T-Band IR/ER (in 0° Abd) *Work from full IR to 0° ER  <b>Active Motion Against Gravity</b> Sidelying ER Standing Scaption Prone Row Prone Extension Prone Horizontal Abduction Prone Scaption	*No Resisted Activity/Lifting *Avoid Repetitive Motion Overhead and in Coronal Plane *Must have good Scapular Control with Active ROM and Strengthening *Be Cautious with Progression of ER ROM
<b>Phase 3</b> 8-12 Weeks	*Progressive Strengthening *Continued Attention to ROM if Still Deficient *Establish Proper Scapulo-humeral Rythm	*Gradually Progress to Full Passive ROM	<b>Passive</b> Continue as Needed  <b>Active Assisted/Active/Stretch</b> Continue Phase 2 Exercises Wall Slide Sidelying IR (“ Sleeper”) Hands Behind Head ER Supine/Standing Cross Body  <b>Strengthening (Dumbbell/T-band)</b> Row Prone Extension Prone Horizontal Abduction Standing/Prone Scaption Internal Rotation External Rotation “W” (Row/ER) Bicep Curl  <b>Dynamic Progressions</b> Rhythmic Stabilization Proprioceptive Drills	*No Heavy or Repetitive Overhead Lifting/Reaching *Limited Return to Gym Lifting Late in Phase 3 per MD Discretion *Dynamic Progressions if Pain Free/Full ROM with all ROM and Strengthening Exercises



<p><b>Phase 4</b> 12-16 Weeks</p>	<p>*Progress strengthening *Regain use of arm for all daily activities.</p>	<p>*Maintain Full Passive/Active ROM</p>	<p><b><u>Active Assisted/Active/Stretch</u></b> Continue Phase 3 As Needed</p> <p><b><u>Strengthening</u></b> Continue T-band and Dumbbell Progressions from Phase 3 Progress to Diagonal Patterns IR/ER at 90° Abd May Begin Limited Weight Training</p> <p><b><u>Dynamic Progressions</u></b> Pushup Progression Continue Proprioceptive Drills Plyometrics/Rebounder Progress to Overhead Rhythmic Stabilization Manual Resistance Patterns</p>	<p>*Still Avoid Return to Sports and Physical Activity *Progress Gym Lifting per MD Discretion *Avoid Activities that Cause Shoulder Pain</p>
<p><b>Phase 5</b> 16-24 Weeks</p>	<p>*Prepare for Return to Sport and Physical Activity</p>	<p>*Continue Stretching Program</p>	<p><b><u>Active Assisted/Active/Stretch</u></b> Continue Phase 3 As Needed</p> <p><b><u>Strengthening</u></b> Continue T-band and Dumbbell Progressions from Phase 4 May Carefully Progress Weight Training</p> <p><b><u>Dynamic Progressions</u></b> Continue Pushup Progression Continue Proprioceptive Drills Progress to Overhead with Plyometrics/Rebounder Manual Resistance Patterns</p>	<p>*Begin Progressive Return to Sports and Physical Activity Program After MD Evaluation *Careful Progression of Weight Training</p>

\*Reviewed by Michael Geary, MD